

APPENDIX C. AGENCY LETTERS



United States Department of the Interior Fish and Wildlife Service



Bloomington Field Office (ES)
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

March 15, 2011

Mr. Philip Marshall
Indiana DNR, Division of Entomology and Plant Pathology
402 West Washington Street, Room W290
Indianapolis, Indiana 46204

Dear Mr. Marshall:

The U.S. Fish and Wildlife Service (FWS) has reviewed your letter of December 13, 2010 regarding the 2011 gypsy moth treatment program for 17 sites in 11 Indiana counties (Adams, Allen, Grant, Lake, LaPorte, Porter, Marshall, Miami, St. Joseph, Starke and Wabash). We are submitting the following comments on the 2011 program.

These comments have been prepared under the authority of the Endangered Species Act of 1973, and are consistent with the intent of the National Environmental Policy Act of 1969.

The plan submitted in your letter includes aerial spraying of mating disruption pheromone flakes (Disrupt II) or liquid (SPLAT) at 10 sites in 9 counties (approximately 107,700 acres), and aerial spraying of *Bacillus thuringiensis* biological control (Btk) at 7 sites in Allen, Lake and Porter Counties (approximately 11,700 acres). No ground treatment is proposed in 2011.

Endangered Species

Endangered butterflies

One of the proposed treatment methods, spraying with *Bacillus thuringiensis* (Btk), is of concern for 2 federally endangered species of Lepidoptera in Indiana, the Karner blue butterfly (*Lycaeides melissa samuelis*) and Mitchell's satyr butterfly (*Neonympha mitchellii*). The known occurrences of these 2 endangered species are in the northern portions of Lake and Porter Counties (Karner blue butterfly), and isolated locations in LaPorte and LaGrange Counties (Mitchell's satyr). The range of these species has not changed since our review of the 2010 gypsy moth program. Treatment with mating disrupters, (which will occur on some sites in Lake and Porter Counties) is considered to be highly specific for gypsy moths, and is not known to have adverse impacts on the federally listed butterflies.

Neither species is known to occur in close proximity to any of the Btk treatment sites identified in your letter. One Btk treatment site in Lake County (Highland block - 5780 acres) is within 3 miles of a Karner blue butterfly population. That block is also in the vicinity of Indiana state nature preserves that support state-endangered or rare butterflies (including Hoosier Prairie State Nature Preserve, where Karner blue butterflies previously occurred but are no longer extant). To avoid any potential for adverse impacts to rare butterflies we recommend that aerial treatment in that area be limited to mating disrupters. However, if aerial treatment is implemented to avoid drift to the Karner blue butterfly area (northward), we concur that the project is not likely to adversely affect this species.

The 350 East Btk core area treatment site in Porter County includes the Moraine State Nature Preserve, which also may contain rare lepidopterans.

Other Endangered Species

The proposed treatment sites are within the range of the federally endangered Indiana bat (*Myotis sodalis*) (entire state), clubshell mussel (*Pleurobema clava*) (Marshall and Starke Counties), and fanshell mussel (*Cyprogenia stegaria*) (Wabash County), and the federally threatened copperbelly water snake (*Nerodia erythrogaster neglecta*) (St. Joseph County). The sites are also within range of 2 species proposed for federal listing: the sheepnose mussel (*Plethobasus cyphus*) (Marshall and Starke Counties) and rayed bean mussel (*Villosa fabalis*) (Allen, Marshall, and Starke Counties). In Allen County the rayed bean is found only in the St. Joseph River, and in the other named counties the clubshell, sheepnose and rayed bean are found only in the Tippecanoe River. None of the treatment sites are near either of those rivers. The fanshell is known only from one reach of the Wabash River; although the Wabash County sites are near the Wabash River they are not near the fanshell record. The copperbelly water snake records are from wetlands associated with natural lakes which are not near the treatment areas. We have no information to indicate that pheromones or Btk cause adverse effects on mussels or reptiles.

Indiana bats hibernate in caves, then disperse to reproduce and forage in undeveloped forested areas associated with water resources during spring and summer. Young are raised in nursery colony roosts in trees, typically near drainageways in undeveloped areas. Prior to hibernation, Indiana bats swarm and feed in forested areas near hibernacula, to build up adequate fat reserves to survive hibernation.

The diet of Indiana bats consists entirely of insects. Based on previous studies they appear to be somewhat opportunistic feeders. Some studies have found lepidopterans as a major dietary component, while others found a diet dominated by terrestrial Coleopterans or aquatic insects. Most of these studies were essentially "snapshots" and there is a lack of comprehensive, long-term research. It is possible that under some circumstances extensive elimination of a broad range of lepidopteran species over a large habitat area has the potential to adversely affect the food base of an Indiana bat nursery colony or swarming area. There are no Indiana bat hibernacula in northern Indiana, and there are no summer records of Indiana bats near any of the Btk sites. The closest summer record is approximately 2.7 miles from the Springrose Heath Btk site in Lake County, which consists of 708 acres without a significant amount of Indiana bat summer habitat. We estimate that the 2011 Btk aerial treatment sites could cover up to 1000

acres of good quality Indiana bat summer habitat in Porter County (including the State Nature Preserve and a complex of upland forest and wetlands), and up to 300 acres of moderate/good summer habitat in Allen County (mostly upland and wetland forest in rural areas).

The threshold and extent of adverse effects of a loss of lepidopteran forage base on Indiana bats is not understood, and there is no documentation of adverse effects from gypsy moth spraying, therefore at this time we consider the likelihood of take from the 2011 program to be discountably small. To minimize potential impacts on the Indiana bat forage base we recommend that aerial spraying of Btk at the Porter County site be conducted as early in the season as feasible while still accomplishing the project goals. The Indiana bat summer occupancy season begins in early April, probably slightly later in northern Indiana.

The FWS concludes that the federally assisted 2011 gypsy moth program is not likely to adversely affect any of these federally listed or proposed species. If future programs include large applications of Dimilin or BT aerial application near areas of endangered butterflies, or if information becomes available regarding impacts on the Indiana bat forage base, this issue will have to be reevaluated.

Several of the sites are within the range of the federal candidate eastern massassauga rattlesnake (*Sistrurus catenatus*). Candidate species are not afforded protection under the Endangered Species Act, but these species may be proposed for listing in the future.

Other Species of Concern

The Mississinewa South block contains a major bald eagle wintering area and is near an eagle nest. We do not anticipate adverse impacts on the nest from pheromone treatments. For state-listed species please consult with the Indiana Division of Nature Preserves.

If the aforementioned condition for Karner blue butterflies is implemented, this precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. If, however, new information on endangered species at the site becomes available or if project plans are changed significantly, please contact our office for further consultation.

For further discussion, please contact Mike Litwin at (812) 334-4261 ext. 205.

Sincerely yours,



Scott E. Pruitt
Supervisor

cc: USFWS, Chesterton, IN

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State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife

Early Coordination/Environmental Assessment

DNR #: ER-15487 Request Received: December 16, 2010

Requestor: Indiana Department of Natural Resources
Philip T Marshall
402 West Washington Street
Room W290
Indianapolis, IN 46204



Project: 2011 proposed gypsy moth treatment sites

County/Site info: Allen - Adams - Grant - LaPorte - Marshall - Miami - Porter - St. Joseph - Starke - Wabash

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

Regulatory Assessment: Formal approval by the Department of Natural Resources under the regulatory programs administered by the Division of Water is not required for this project.

Natural Heritage Database: The Natural Heritage Program's data have been checked. Attached are lists of natural heritage element occurrences located within or near to the proposed treatment sites.

There are two treatment sites located near nature preserves:

- 1) Springrose Heath is near Biesecker Prairie Nature Preserve
- 2) Koontz Lake is near Koontz Lake Nature Preserve

The treatment sites are located far enough away from these preserves that the Division of Nature Preserves (DNP) does not have concerns.

DNP does have concerns about two other treatment sites:

- 1) Highland in Lake County:

DNP has concerns about possible impacts on rare native butterflies and moths at Hoosier Prairie Nature Preserve (located outside, but just east of the treatment block) and a small native prairie (located within the treatment block east of Wicker Park). You have assured us that the actual spraying will avoid both of these areas.

- 2) 350 East and Btk Core in Porter County:

The concern is that native butterflies and moths would be impacted within and around Moraine Nature Preserve. Additional gypsy moth presence information will be shared with DNP so that they can determine actual spraying zones and the extent to which these might impact high quality areas of the Nature Preserve.

Fish & Wildlife Comments: The devastating effects of uncontrolled gypsy moth infestations are well documented. Effects on non-target species are possible and care should be taken near areas that could possibly possess endangered or threatened species, or species of concern. The effects on target species will depend on a variety of factors and are impossible to predict with certainty. However, controlling the spread of gypsy moths is important to reduce the negative effects the caterpillars have on trees, particularly oaks. At this time, no harm to state or federal listed species resulting from the proposed control measures is known or anticipated. The potential harm from the project is less than the potential harm to these same species from an uncontrolled gypsy moth infestation. Time the application of Btk to maximize its effects on gypsy moth caterpillars.

Attachments: A - General Information

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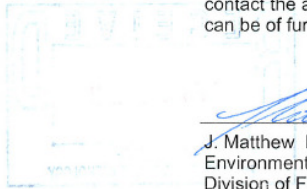
State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife


Early Coordination/Environmental Assessment

Contact Staff:

Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife

Our agency appreciates this opportunity to be of service. Please do not hesitate to contact the above staff member at (317) 232-4160 or 1-877-928-3755 (toll free) if we can be of further assistance.




J. Matthew Buffington
Environmental Supervisor
Division of Fish and Wildlife

Date: February 17, 2011

Attachments: A - General Information



Indiana Department of Natural Resources

Mitchell E. Daniels, Jr., Governor
Robert E. Carter, Jr., Director

Division of Historic Preservation & Archaeology • 402 W. Washington Street, W274 • Indianapolis, IN 46204-2739
Phone 317-232-1646 • Fax 317-232-0693 • dhpa@dnr.IN.gov



January 4, 2010

Philip T. Marshall
Indiana Department of Natural Resources
Division of Entomology & Plant Pathology
402 West Washington Street, Room W290
Indianapolis, Indiana 46204

State Agency: Indiana Department of Natural Resources

Re: Project information concerning the gypsy moth treatment sites for 2011 (DHPA #11095)

Dear Mr. Marshall:

Pursuant to Indiana Code 14-21-1 the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology ("DHPA") has conducted a review of the materials dated December 13, 2010 and received by the DHPA on December 16, 2010 for the above indicated project in Adams, Allen, Grant, Lake, LaPorte, Marshall, Miami, Porter, St. Joseph, Starke & Wabash Counties, Indiana.

Based on our analysis, we do not believe that any historic properties will be altered, demolished, or removed by the proposed project.

If you have any further questions regarding this determination, please contact the DHPA. Questions about historic buildings or structures pertaining to this project should be directed to Miriam Widenhofer at (317) 233-3883 or mwidenhofer@dnr.IN.gov. Additionally, in all future correspondence regarding the above indicated project, please refer to DHPA #11095.

Very truly yours,

James A. Glass, PhD
Director, Division of Historic Preservation & Archaeology

JAG:MLW:mlw

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